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MEMORANDUM

DATE: March 25, 2011

TO: Alderman Marcia T. Johnson, Chairman, and
Members of the Zoning and Planning Committee

FROM: Candace Havens, Director of Planning and Development 
Jennifer Molinsky, Interim Chief Planner for Long-Range Planning
Seth Zeren, Chief Zoning Code Official

RE: Working Session
Petition #65-11. Terrence P. Morris and Joseph Porter proposing an amendment to the zoning ordinance to change the definition of "height" with a concomitant increase in the height to the pre-1997 limits; to make height exceptions in accessory buildings subject to special permit rather than a variance.

On February 28, 2011, the Committee heard from the petitioners of item #17-11, which relates to the definition and measurement of "grade plane." Grade plane defines baseline from which the height of a building is measured. During the discussion of potential revisions to the grade plane definition, the overall topic of building height was raised. In response, a second petition, #65-11 was docketed to consider revisions to the definition of height in the zoning ordinance. The proposed changes primarily impact the regulation of height of structures and accessory structures in Residence zones.

History of Height Regulations and Definitions

In 1997, Ordinance V-111 revised the definition of height to measure height to the "highest roof surface" and lowered the allowed height to 30 feet (from 36 feet) to lower development potential and protect existing structures. In 1999, Ordinance V-232, changed the definition of height to its current definition of the midpoint between the peak and the intersection of the roof and wall planes with the intent of encouraging pitched-roof designs.

I. Current Height Definition

The definition of height in Section 30-1 of the Zoning Ordinance lays out the method for calculating building height, which is regulated in Section 30-15, Density/Dimensional Controls. Under the current definition, height is calculated as the distance between the “average grade plane” and the midpoint between the roof peak and the intersection of the roof and the wall plate (see Figure 1 and Figure 2).

Figure 1.

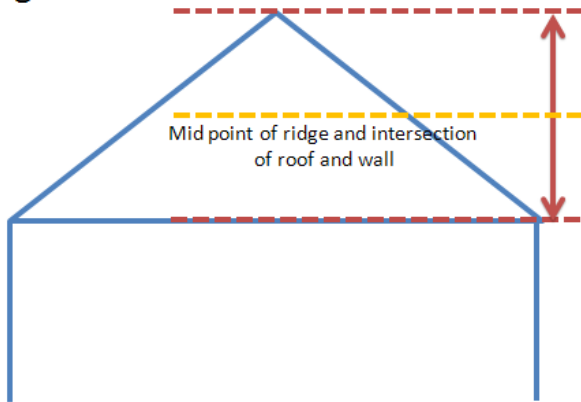


Figure 2.

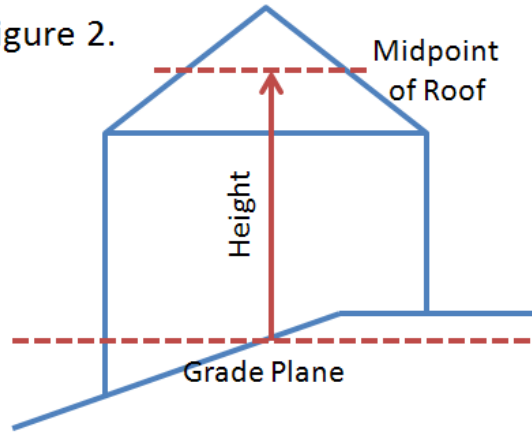


Figure 1 and Figure 2 show how building height is measured. Figure 1 shows how the midpoint between the roof peak and the intersection of the roof and wall is calculated. Figure 2 shows how the midpoint and the grade plane together describe the height of a building.

According to the Inspectional Services Department (ISD), there are several issues with the current definition of “height” in the Zoning Ordinance:

1. **The current method of measuring building height, as defined in the Zoning Ordinance, is confusing and can be manipulated by those measuring it to increase peak height.** The term of art, “wall plate,” used in the definition is actually a construction feature. ISD believes that this language was a scrivener’s error and that the intended language was “wall plane,” describing the geometry of the wall and the intersection of two planes (the roof and the wall). By lowering the point where roof and wall “intersect,” the peak height can be increased while keeping the midpoint at the same required height.
2. **The current method does not actually regulate the absolute height of a structure.** The peak height of a conforming structure can vary considerably depending on the shape of the roof. Because the midpoint of the roof is higher on structures with steeply pitched roofs, buildings with steeply pitched roofs may be taller than those with flatter roofs.

The current definition of grade plane in the Zoning Ordinance is as follows:

“Height: The vertical distance between the elevations of the following: (a) the average grade plane and (b) the midpoint between the highest point of the ridge of the main building roof and the line formed by the intersection of the top of the main building wall plate and the main roof plane. Not included in such measurements are 1) cornices which do not extend more than five (5) feet above the roof line; 2) chimneys, vents, ventilators and enclosures for machinery of elevators which do not exceed fifteen (15) feet in height above the roof line; 3) enclosures for tanks which

do not exceed twenty (20) feet in height above the roof line and do not exceed in aggregate area ten (10) per cent of the area of the roof; and 4) towers, spires, domes and ornamental features.”

II. Proposal

Petition #65-11 proposes three separate revisions to the zoning ordinance. First, the petition calls for changing the definition of height in Section 30-1 of the Zoning Ordinance so that height is measured to the roof peak. Second, it calls for a commensurate increase in the allowed heights in Section 30-15, Density/Dimensional Requirements to account for the increase in height measured. Third, the petition calls for a change in how relief is provided from height requirements in accessory structures.

1. **Redefine Height.** ISD and the Planning Department suggest the following revised definition of “height:”

“Height: The vertical distance between the elevations of the following: (a) the average grade plane and (b) the peak of the roof line. Not included in such measurements are 1) cornices which do not extend more than five (5) feet above the roof line; 2) chimneys, vents, ventilators and enclosures for machinery of elevators which do not exceed fifteen (15) feet in height above the roof line; 3) enclosures for tanks which do not exceed twenty (20) feet in height above the roof line and do not exceed in aggregate area ten (10) per cent of the area of the roof; and 4) towers, spires, domes and ornamental features.”

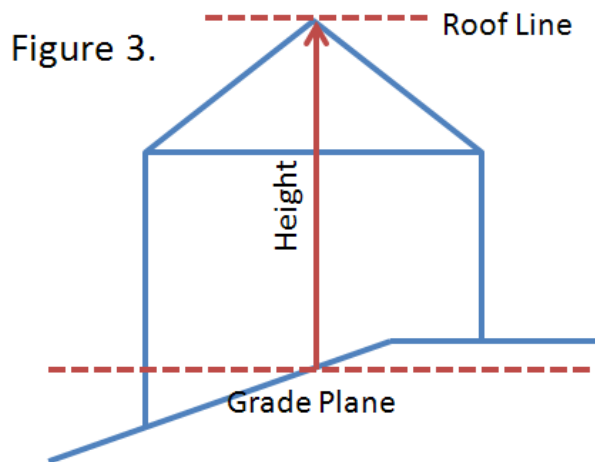


Figure 3 shows how height would be calculated under the proposed revision to the definition.

2. **Increase height limit.** The petition suggests an increase in the height limit to the pre-1997 limit of 36 feet.
3. **Allow height limits for accessory structures to be waived by special permit.** An addition to Section 30-15(m)(2) is required that allows the maximum height requirement to be waived by special permit from the Board of Aldermen. Without such a clause, the default relief for height beyond that allowed would be through a variance from the Zoning Board of Appeals.

III. Analysis

The Planning Department's analysis involved the following:

- Examining the general merits of a revision in the definition and regulation of height
- Researching how other communities measure and regulate residential height
- Considering the impact the change in method might have on building outcomes in Newton
- Examining the Zoning Ordinance as a whole to identify any potential unintended consequences

The Inspectional Services and Law Departments worked closely with the Planning Department in its analysis.

Overview

Our analysis takes each of the three potential changes individually. ISD and the Planning Department agree that measuring height to the roof peak rather than the roof midpoint represents a significant improvement over the current definition. Based on Newton's own ordinance history and our research of other communities' ordinances, ISD and the Planning Department also feel confident that the proposed height limit of 36 feet in residential areas is appropriate. However, ISD and the Planning Department feel strongly that the third part of the petition does not materially improve the regulation of height in Newton and originates from a particular project seeking extraordinary relief from zoning requirements through an ordinance change.

1. Redefinition of height

Comparisons with other communities

We examined the definitions of height in the surrounding communities of Brookline, Needham, Sudbury Waltham, Watertown, Wellesley, and Weston. No community defines height as Newton currently does. The majority clearly define that height is measured to the "highest roofline" or similar.

Impact of proposed change

The proposed changes would mainly affect residential properties; most new commercial properties are flat-roofed. The current definition favors sloping roofs by allowing them higher total peak heights. The proposed change eliminates this preference. However, the Planning Department does not expect significantly different roof designs in response to a change in the height measure. Other elements of the Zoning Ordinance help to ensure a sloping roof on residential properties. For example, the "half story" requirement, which limits the area on the third story, requires a sloping roof.

Suggested changes

The Planning Department recommends the proposed definition above. The committee may also want to consider renaming the definition "height, building" as "height" is used frequently throughout the Ordinance for other issues, such as retaining walls, fences, wireless communications equipment and so forth.

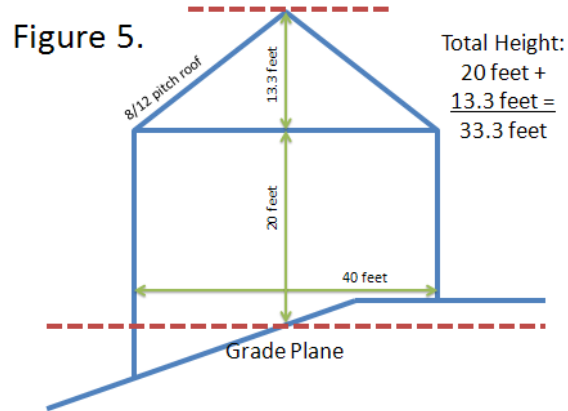
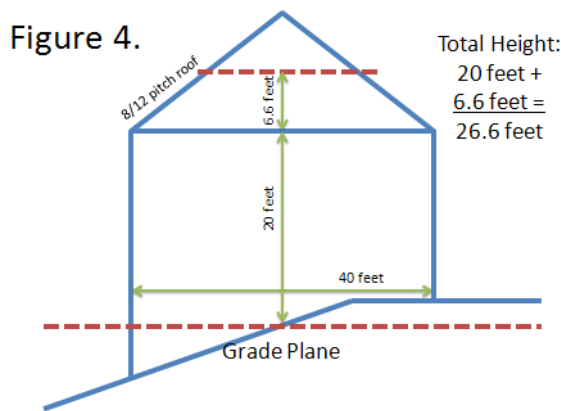
2. Increase in height limit

Comparisons with other communities

We examined the definitions of regulation of height for residential areas in the surrounding communities of Brookline, Needham, Sudbury Waltham, Watertown, Wellesley, and Weston. The majority of communities allowed 35 feet of building height for residential structures, and in a few cases as much as 45 feet.

Impact of proposed change

Combined with the above redefinition of height, a return to a height limit of 36 feet would have limited impact on new construction or existing homes. It is possible that some currently conforming structures would be made nonconforming, particularly structures that have already maximized height and have a steeply pitching roof (see Figure 4 and Figure 5 below).



Figures 4 and 5 compare how “height” would change for the same structure from the current definition (Figure 4) to the proposed definition (Figure 5). In both cases the structure is conforming. If the first two floors were 3.4 feet taller, creating a total height of 30 feet under the current rule, then the structure would be nonconforming under the new rule with a total height of 36.7 feet.

Being nonconforming is not entirely a burden; while it can lead to a special permit requirement where expansions would increase the degree of nonconformity, it also allows structures to attain relief for exceeding zoning requirements through a special permit (under Section 30-21) rather than pursue a much more difficult variance. Furthermore, no special relief would be required for a house that is nonconforming with regard to height that desired other by-right additions or renovations.

Suggested changes

The Planning Department suggests that a revised height limit of 36 feet be inserted into the Density and Dimensional Controls Tables in Section 30-15, returning the requirement to the pre-1997 level.

In examining the ordinance for consistency and clarity, it should be noted that the redefinition in #1 above would affect the measurement of height for accessory structures as well. Currently the accessory structure height limit is 18 feet. To match the proposed change in the method of measuring building height, the Planning Department and ISD suggest increasing the maximum height of accessory structures by four feet to a maximum of 22 feet. This height increase would allow a 12:12 pitch roof over a regularly sized two-car garage (24 feet x 24 feet).

3. Change in relief for height restrictions of accessory structures

The third proposed change in Petition #65-11 is to allow the waiving of the height requirement for accessory structures by special permit rather than by variance. The Planning Department, ISD, and the Law Department concur that there is no adequate reason for this change.

Our research of neighboring municipalities revealed no precedent in surrounding communities for such a change. In the Newton Zoning Ordinance, it is the case that in Residential districts, exceeding *any* dimensional or density requirement without prior legal nonconformity requires a variance, except where specifically noted (e.g., residential FAR). We see no adequate rationale for making the height of accessory structures an exception from the rule.

4. Consistency with Ordinance

The following definition of “height, contextual,” a part of the Planned Mixed-Use Business Development (PMBD) section of the Zoning Ordinance, uses a similar approach to calculating height to that of the “height” definition. The Committee may want to consider revising this definition to match the new definition of height proposed above.

Existing:

“Height, Contextual: The vertical distance between the elevations of the following: (a) the Newton Base Elevation utilized by the city as implemented by the engineering division of the department of public works and (b) the mid-point between the highest point of the ridge of the roof and the line formed by the intersection of the wall plane and the roof plane. Not included in such measurements are 1) cornices which do not extend more than five (5) feet above the roof line; 2) chimneys, vents, ventilators and enclosures for machinery of elevators which do not exceed fifteen (15) feet in height above the roof line; 3) enclosures for tanks which do not exceed twenty (20) feet in height above the roof line and do not exceed in aggregate area ten (10) per cent of the area of the roof; and 4) towers, spires, domes and other ornamental features.”

Proposed:

“Height, Contextual: The vertical distance between the elevations of the following: (a) the Newton Base Elevation utilized by the city as implemented by the engineering division of the department of public works and (b) the peak of the roof line. ...”

IV. Recommendations

The Planning Department and ISD recommend the adoption of the revised definition and height limit as proposed in this memorandum, and consider amending the PMBD’s definition of “height, contextual.” The Planning Department and ISD recommend that the Committee reject part three of the petition.